

DEPARTMENT OF TRANSPORTATION**DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-001256**Date Inspected:** 13-Jan-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 1400**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 2330**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Zhu Zhong Hai, Fu Yu Hong**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** Tower mock ups and OBG components**Summary of Items Observed:**

The Caltrans Quality Assurance (QA) inspector, Scott Croff, was present at Zhenhua Port Machinery Company, Ltd (ZPMC) to observe the scheduled mock up construction and production construction of the SAS Superstructure.

Bay 2: The QA inspector observed ZPMC personnel grinding on the Upper and Lower 114 meter assemblies. The QA inspector noted that the diagonal corner stiffener welds were completed and the workers appeared to be grinding/finishing the welds. The QA inspector also observed submerged arc welding (SAW) in progress on the outside corner MWT-21 (between skin plates "B" and "C") on the 77 meter mock up assembly. The QA inspector noted that Xia Yong Liu is the welding operator. The QA inspector noted that Zhu Feng is monitoring the welding parameters and recording the information. The QA inspector was informed that welding procedure specification (WPS)-B-T-2221-C-U2b-S-1 is being used at this location. The QA inspector observed the CWI Zhu Zhong Hai near the work area at another welding location. The QA inspector noted that the CWI appeared to be monitoring 4 different welding operations on the 77 meter mock up assembly. The QA inspector also observed shielded metal arc welding (SMAW) being performed on Lug Plates (type p676) between the stiffeners on skin plate "D" and the diaphragms of the 77 meter mock up assembly. The QA inspector noted that Du Heng Hua and Liu Shou Hai are making vertical fillet welds between the Lug Plates and the stiffeners/diaphragm plates. The QA inspector also noted that this work is being monitored by the CWI Zhu Zhong Hai. The QA inspector was informed that WPS-B-P-2113 is being used at these locations.

Bay 3: The QA inspector observed ZPMC personnel operating the gantry mounted flux cored arc welding (FCAW) to make fillet welds on SP029-01. The QA inspector observed 3 welders, each operating 2 machines.

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The QA inspector was informed that the welders were Li Zhou Qian, Xin Meng and Li Shu Liang. The QA inspector observed that joints being welded were 014, 015, 018, 019, 022 and 023. During the welding, the QA inspector noted that the welding parameters are being measured and recorded by Guo Yang Wei, who was observed and reported on the TL-6031 from 1-4-2008. The QA inspector noted that this person is not an approved CWI or CAWI. The QA inspector asked him if there was a CWI and was directed to a person on the ground who appeared to be watching the welding and preheat temperature. The QA inspector then asked this person if he was the CWI and the QA inspector was informed that he was. The QA inspector recognized this person and on 1-6-2008 the QA inspector had identified that Hu Wei Qing is not an approved CWI or CAWI. The QA inspector again asked him if he was the CWI, to which Hu Wei Qing replied that he was. The QA inspector then continued to make random observations of the work in progress and noted that one of the T-stiffeners had been previously identified as visually non-conforming to AWS D1.5 2002, section 6.26.1.5. The QA inspector was unaware of repairs being completed and observed that, as reported on 1-2-2008 as 3mm deep undercut, there was now a large divot that apparently resulted in grinding of the undercut. The QA inspector noted that a small portion of the undercut is still visible in the bottom of the grinding divot. The QA inspector informed the Quality Control Liaison (QCL) Fu Yu Hong of this observation and of the previous observations of the complete joint penetration (CJP) T-stiffener splice weld #SP029-01-002. The QCL was shown the weld and undercut/grinding divot. The QCL verified the undercut/grinding depth and then contacted the CWI Xu Xian Ping. At the end of shift, the QA inspector did not observe any further work or repairs at this location. The QA inspector also noted that on 1-3-2008, there appears to have been an acceptable ultrasonic test that was conducted by a ZPMC technician. See the attached photo.



Summary of Conversations:

As noted above, the QA inspector Scott Croff had several conversations with ZPMC personnel in Bay 2 and Bay 3.

The conversations were generally regarding the observed work in progress and are described above. The QA inspector also had a conversation with the QCL Fu Yu Hong regarding the observed undercut/grinding divot on SP029-01-002. The QA inspector was familiar with it's previous condition and explained to the QCL what appeared to have been done since the last observations made by the QA inspector. The QCL seemed concerned and he immediately informed other ZPMC personnel of the apparent condition. The QA inspector was informed that CWI Xu Xian Ping was informed, the QA inspector observed this CWI examining the part but was not informed of any planned work to repair this condition.

The QA inspector Scott Croff had a conversation with the QA inspector Robert Cuellar. The QA inspector Scott Croff was informed that an incident report should be written for the observed welding on SP029-01 T-stiffeners

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without there being an approved CWI. The QA inspector Scott Croff also informed the other swing shift QA inspectors Paul Dawson and Gabriel Quintana of the general status of the work observed. The QA inspector then generated a summary report to be included in the daily shift log. There were no other notable conversations during this shift.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

Inspected By:	Croff,Scott	Quality Assurance Inspector
Reviewed By:	Cuellar,Robert	QA Reviewer
